40

4=

-50

00

-0+

40

-0-

-04

-0-

4=

-00

0

10/645,386

1-15. (CANCELED).

16. (CURRENTLY AMENDED) A speed measuring system comprising at least one stationary speed sensor (4) for detecting determining a speed of a measuring body [[(1)]] rotating relative to [[the]] a speed sensor (4) in which comprising:

one of electric and magnetic discontinuities [[are]] provided on a periphery of the measuring body [[(1)]], and the speed sensor [[\cdot 4)]], located at a defined distance from the measuring body [[(1)]], reacts to a direction of movement of the discontinuities situated [[of]] on the measuring body [[(1)]] as the measuring body [[(1)]] is moved past the speed sensor [[(4)]],

wherein the speed measuring system [[has]] <u>further comprises</u> a separate distance sensor [[(5)]] for determining an actual distance (LS) between the speed sensor (4) and the measuring body (1) and an actual change in distance between the speed sensor [[(4)]] and the measuring body [[(1)]], and the speed of the measuring body [[(1)]] is determined from an actual output signal of the speed sensor (4) depending on <u>evaluated according to</u> an actual output signal of the distance sensor [[(5)]] in an evaluation device of the speed measuring system <u>to improve reaction sensitivity of the speed sensor</u>.

- 17. (CURRENTLY AMENDED) The speed measuring system according to claim 16, wherein release thresholds (S-o, S-u) of the speed sensor specific to at least one of the speed sensor (4) specific to the sensor and/or to and the measuring body are respectively a function of the actual distance [[(LS)]] between the speed sensor [[(4)]] and the measuring body [[(1)]] and a function of an actual change in distance between the speed sensor [[(4)]] and the measuring body [[(1)]], the evaluation device of the speed measuring system issues a speed unequal to a "zero" value, as the actual speed of the measuring body [[(1)]], only when an actual speed signal amplitude of the speed sensor [[(4)]] is greater than an upper release threshold [[(S_o)]] or smaller than a lower release threshold [[(S_u)]].
- 18. (CURRENTLY AMENDED) The speed measuring system according to claim 16, wherein a maximum speed signal amplitude: [[(A_max)]] specific to the <u>speed</u> sensor and a minimum speed signal amplitude (A_min) specific to the measuring body of the speed sensor (4) are respectively a function of the actual distance between the speed sensor [[(4)]] and the measuring body [[(1)]], and a function of the actual change in distance between the speed sensor [[(4)]] and the measuring body [[(12)]], and the evaluation device of the speed measuring system issues a speed unequal to [[the]] a "zero" value as [[the]] an actual speed of the measuring body [[(1)]] only when an actual

10/645,386

speed signal amplitude of the speed sensor [[(4)] is smaller by one of a defined differential amount and a defined percent deviation than the maximum speed signal amplitude (A_max) or is larger by a defined differential amount than the minimum speed signal amplitude (A_min).

- **4**•
- 19. (CURRENTLY AMENDED) The speed measuring system according to claim 16, wherein, when [[the]] <u>an</u> air gap decreases, [[the]] <u>an</u> upper and <u>a</u> lower release thresholds (S_o, S_u) and [[the]] maximum and minimum speed signal amplitudes (A_max, A_min) are increased.
- -0-
- 20. (CURRENTLY AMENDED) The speed measuring system according to claim 16, wherein the distance sensor [[(5)]] scans, without contact, a contour of the measuring body [[(1)]] as a distance measuring surface [[(3)]].
- **00**
- 21. (CURRENTLY AMENDED) The speed measuring system according to claim 16, wherein the speed sensor [[(4)]] and the distance sensor [[(5)]] are situated in a common housing [[(6)]].
- **)**
- 22. (PREVIOUSLY PRESENTED) The speed measuring device according to claim 16, wherein the speed measuring system has two speed sensors disposed immediately adjacent one another which detect the one of the electric and magnetic discontinuities of the measuring body independently of one another, and the evaluation device takes into account a phase offset between both speed sensor signals so that the speed measuring system delivers, as an output, at least one of the speed, a direction of rotation and an angularity of the measuring body.
- 23. (PREVIOUSLY PRESENTED) The speed measuring system according to claim 22, wherein both speed sensors and the distance sensor are situated in a common housing.
- 24. (CURRENTLY AMENDED) The speed measuring system according to claim 17, wherein the upper and lower release thresholds (S_o, S_u) and [[the]] maximum and minimum speed amplitudes (A_max A_min) are stored as specific sensor-specific characteristic lines in the evaluation device of the speed measuring system.
- 25. (PREVIOUSLY PRESENTED) The speec measuring system according to claim 24, wherein the sensor-specific characteristic lines are adaptable.
- 26. (CURRENTLY AMENDED) The speed measuring device according to claim 16, wherein the evaluation device of the speed measuring system is integrated in [[the]] a sensor housing [[(6)]].

10/645,386

- 27. (PREVIOUSLY PRESENTED) The speed measuring system according to claim 16, wherein the evaluation device of the speed measuring system is situated in a separate control unit.
- 28. (CURRENTLY AMENDED) The speed measuring device according to claim 16, wherein the distance sensor [[(5)]] works according to one of an inductive measuring principle, a magnetic-resistive measuring principle, an optical measuring principle and a Hall measuring principle.
- 29. (CURRENTLY AMENDED) The speed measuring system according to claim 16, wherein the speed sensor [[(4)]] works according to a measuring principle in which a speed signal amplitude [[(A)]] depends on the distance [[(LS)]] between the speed sensor [[(4)]] and the measuring body [[(1)]].
- 30. (CURRENTLY AMENDED) The speed measuring system according to claim 29, wherein the distance sensor [[(5)]] works according to one of an inductive measuring principle, a magnetic-resistive measuring principle, an optical measuring principle and a Hall measuring principle.
 - 31. (NEW) A speed measuring system comprising:

at least one stationary speed sensor for detecting speed of a measuring body rotating relative to the speed sensor in which one of electric and magnetic discontinuities are provided on a periphery of the measuring body, and the speed sensor, located at a defined distance from the measuring body, reacts to a direction of movement of the discontinuities situated of the measuring body as the measuring body is moved past the speed sensor;

the speed measuring system further comprising a distance sensor for determining an actual distance between the speed sensor and the measuring body and an actual change in distance between the speed sensor and the measuring body, and said distance information is constantly used to adapt release thresholds of the speed sensor that are specific to the sensor relative to the actual air gap between measuring body and speed sensor.

32. (NEW) A speed measuring system for determining a speed of a measuring body rotating relative to a speed sensor comprising:

one of electric and magnetic discontinuities provided on a periphery of the measuring body, and the speed sensor, located at a defined distance from the measuring body, reacts to a direction of movement of the discontinuities situated on the measuring body as the measuring body is moved past the speed sensor.

10/645,386

the speed measuring system comprises a distance sensor for determining an actual distance and an actual change in distance between the speed sensor and the measuring body, and the speed of the measuring body is determined from an measured output signal of the speed sensor adapted by an actual output signal of the distance sensor in an evaluation device of the speed measuring system to improve reaction sensitivity of the speed sensor; and

wherein a maximum speed signal amplitude specific to the speed sensor and a minimum speed signal amplitude specific to the measuring body are respectively a function of the actual distance between the speed sensor and the measuring body, and a function of the actual change in distance between the speed sensor and the measuring body, and the evaluation device of the speed measuring system issues a speed unequal to a "zero" value as an actual speed of the measuring body only when an actual speed signal amplitude of the speed sensor is smaller by one of a defined differential amount and a defined percent deviation than the maximum speed signal amplitude or is larger by a defined differential amount than the minimum speed signal amplitude.

33. (NEW) The speed measuring system according to claim 32, wherein release thresholds (S-o, S_u) of the speed sensor (4) specific to the sensor and/or to the measuring body are respectively function of the actual distance (LS) between the speed sensor (4) and the measuring body (1) and a function of an actual change in distance between the speed sensor (4) and the measuring body (1), the evaluation device of the speed measuring system issues a speed unequal to the "zero" value, as the actual speed of the measuring body (1), only when an actual speed signal amplitude of the speed sensor (4) is greater than an upper release threshold (S_o) or smaller than a lower release threshold (S_u).

34. (NEW) The speed measuring system according to claim 33, wherein, when the air gap decreases, the upper and lower release thresholds (S_o, S_u) and the maximum and minimum speed signal amplitudes (A_max, A_min) are increased.

35. (NEW) The speed measuring system according to claim 33, wherein the upper and lower release thresholds (S_o, S_u) and the maximum and minimum speed amplitudes (A_max, A_min) are stored as specific characteristic lines in the evaluation device of the speed measuring system.